

**WHAT IS CLAIMED IS:**

1. A drive circuit of an ink jet head having nozzles, pressure generating chambers filled with ink to be jetted from said nozzles and piezo-electric actuators provided correspondingly to respective said pressure generating chambers, for jetting ink droplets from said nozzles by changing volumes of  
5 said pressure generating chambers by applying a drive waveform signal to said piezo-electric actuators, comprising:

a waveform generator for generating the drive waveform signal;

10 a power amplifier for amplifying the drive waveform signal supplied to one input of said power amplifier and outputting it to said piezo-electric actuators; and

a feedback loop for feeding back a terminal voltage of said piezo-electric actuators to the other input of said power amplifier.

2. A drive circuit of an ink jet head, as claimed in claim 1, wherein said feedback loop for feeding back the terminal voltage of said piezo-electric actuators includes a capacitor for leading to signal phase in high frequency range.

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3. A drive circuit of an ink jet head having nozzles, pressure generating chambers filled with ink to be jetted from said nozzles and piezo-electric actuators provided correspondingly to respective said pressure generating chambers, for jetting ink droplets from said nozzles by changing volumes of  
5 said pressure generating chambers by applying a drive waveform signal to said piezo-electric actuators, comprising:

a waveform generator for generating the drive waveform signal;

a power amplifier for amplifying the drive waveform signal supplied to

one input of said power amplifier and outputting it to said piezo-electric  
10 actuators; and

a feedback loop for feeding back a terminal voltage of said piezo-electric  
actuators and the output signal of said power amplifier to the other input of  
said power amplifier.

4. A drive circuit of an ink jet head, as claimed in claim 3, wherein said  
feedback loop for feeding back the terminal voltage of said piezo-electric  
actuators includes a capacitor for leading to signal phase in high frequency  
range.

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5. A drive method of an ink jet head having nozzles, pressure generating  
chambers filled with ink to be jetted from said nozzles and piezo-electric  
actuators provided correspondingly to respective said pressure generating  
chambers, for jetting ink droplets from said nozzles by changing volumes of  
5 said pressure generating chambers by applying a drive waveform signal to said  
piezo-electric actuators, comprising the steps of:

generating the drive waveform signal;

inputting the drive waveform signal to one input of a power amplifier and  
supplying an amplified signal of the drive waveform signal to said piezo-electric  
10 actuators; and

feeding back the amplified signal supplied to said piezo-electric actuators  
to the other input of said piezo-electric actuators.

6. A drive method of an ink jet head having nozzles, pressure generating  
chambers filled with ink to be jetted from said nozzles and piezo-electric  
actuators provided correspondingly to respective said pressure generating  
chambers, for jetting ink droplets from said nozzles by changing volumes of

5 said pressure generating chambers by applying a drive waveform signal to said piezo-electric actuators, comprising the steps of:

generating the drive waveform signal;

inputting the drive waveform signal to one input of a power amplifier and supplying an amplified signal of the drive waveform signal to said piezo-electric

10 actuators; and

inputting the amplified signal supplied to said piezo-electric actuators and the output signal of said power amplifier to the other input of said power amplifier.

7. A drive circuit of an ink jet head of a serial type ink jet printer, which includes a carriage mounting nozzles and pressure generating chambers and in which ink droplets are jetted from the nozzles by sharply changing volumes of said pressure generating chambers filled with ink by applying drive waveform

5 signal to piezo-electric actuators provided corresponding to said respective pressure generator chambers while moving said carriage reciprocally in a direction perpendicular to a feeding direction of a printing sheet, comprising:

a control circuit board mounting a waveform generator for generating a signal for driving said ink jet head, a power amplifier for amplifying the output

10 signal of said waveform generator to an electric power capable of driving said ink jet head, an image memory for storing printing data and a data transmitter for transmitting the image data stored in said image memory as a serial data thereon;

an intermediate circuit board mounted on said carriage and mounting a data receiver for receiving the serial data from said data transmitter, transfer gates for selecting piezo-electric actuators on the basis of the received printing data and a level shifter for matching voltage levels of said data receiver and said transfer gates thereon;

a cable for connecting said control circuit board and said intermediate  
20 circuit board each other; and

a negative feedback loop including a resistor and a capacitor and provided between inputs of said transfer gates connected and said intermediate circuit board to said power amplifier mounted on said control circuit board.

8. A drive circuit of an ink jet head, as claimed in claim 7, wherein said ink jet head drive circuit of said serial type ink jet printer further comprises a negative feedback loop including a resistor and provided between an output and an input of said power amplifier mounted on said control circuit board.